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ABSTRACT

High school media program services, resources required for program establishment, and program impact on student skills and attitudes were examined in 15 Calgary senior high schools with emphasis on the effect of the audiovisual (AV) component. A student questionnaire was used with two 12th grade classes in each school to determine attitudes or behaviors concerning the media center. The Liesener Inventory was used to catalog media center services provided, and site visits obtained impressions of library arrangement and organization from students, teachers, and media-center staff. Access, instruction, and reference services were common to almost all centers. Presence of the audiovisual component was influenced by school teaching and organizational models. Existence of the AV component was associated with students valuing and extensively using the library program. The findings have implications for individuals concerned with student learning styles, provision for models of teaching, and curriculum implementation. This report includes 29 references. (LMM)

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HIGH SCHOOL STUDENTS' ATTITUDES TOWARDS THE MEDIA PROGRAM---WHAT MAKES THE DIFFERENCE?*

by
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During the sixties, school media centres began to creep across North America, sustained by an influx of human and physical resources. Some schools even began to purchase audio-visual materials which were made available to teachers (and occasionally) to students through the schools' media centres. Such efforts were undoubtedly encouraged through national media associations such as the American Association of School Librarians, the Association for Educational Communications and Technology, the Association for Media and Technology in Education in Canada and the Canadian School Library Association, a Division of the Canadian Library Association.

The American and Canadian standards published by the above groups have frequently formed the base for evaluation used across the continent - particularly the American standards. For example, most recently the Association for Educational Communications and Technology (A.E.C.T.) has published Evaluating Media Programs: District and School. (Committee on Evaluation of Media Programs Association for Educational Communications and Technology, 1980, American Library Association and Association for Educational Communications and Technology, 1975) However, A.E.C.T.'s standards-based evaluation is not necessarily empirically based. That is, the standards have been developed as a product of "consensus by committee" and that committee has been composed of people like you and me - believers who know what should be. You and I know in our hearts that media programs must provide expertise in the availability and production of films, filmstrips, slides, graphics, recordings and reprography. Apparently we also know in our hearts exactly how many filmstrips, slides, filmstrip projectors, cameras, copy machines, etc., are needed in a base collection. (American Library Association and Association for Educational Communications and Technology, 1975, p.73) Unlike innovative curriculum evaluators such as David Hamilton and Barry MacDonald, we cannot boast that we have moved beyond the numbers game. (Hamilton, 1977)

Nor have we taken up the challenge to conduct research regarding the relationships of media program services and student outcomes. In spite of persistent challenges by media specialists such as Janet Stroud and Anna Lowrey, the research remains thin. (Aaron, 1979; Lowrey and Case, 1979) We have not followed through on the work of researchers such as Lillian Wight and Clyde Greve and we persist in using the cardiac method of evaluating media programs

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* This research was conducted as part of a District-wide Media Centre Program Evaluation commissioned by the Calgary Board of Education and completed in Spring, 1981.

based on consensus amongst ourselves, as to what is right and good. (Wight and Grossman, 1977; Greve, 1974) All of this, in spite of the fact that media specialists such as Ernest Deprospo pointed out, as long ago as 1975, that such evaluation was only functional in times of sustained economy. (Deprospo and Liesener, 1975) We must expect that, when school boards face limited public dollar support, trustees and school-based administrators will ask whether or not media programme services are making a difference to student outcomes. That time has come. Competition for the shrinking dollar is as intense as the questions being raised by educators who are not like us - who are not media specialists. Why should money be allocated for media programmes? What difference does it make?

These were the two questions raised recently by the Calgary Board of Education in Alberta, Canada. Consequently, a broad evaluation of school-based media programs was designed and implemented. (Hodges, Gray and Reeves, 1981)

The goal of this Evaluation was to ascertain what services were being provided in media programs, to measure the resources required to establish media programs, and to assess the impact of media programs on student skills and attitudes. This paper focuses on the effect of the audio-visual component of high school media programs on student attitudes and behaviours. It was discovered that media program use, and the instrumental importance placed upon the program used by students, was much greater in those high schools with media programs which make audio-visual materials, equipment and media specialist services available to the students.

Procedures

The Sample

The results reported below are based on data collected from fifteen senior high schools (Grades X to XII) in the Calgary public school District during the 1979-1980 school year. The enrolment in most schools was from nine hundred to sixteen hundred students. The media centres in these schools were typically staffed by one full-time teacher-librarian and two full-time library clerks. (In the fall of 1979, the number of full-time teacher-librarians was increased from one to two in four of these schools. The number of library clerks ranged from one to three full-time staff equivalents.) The media centre budget is allocated by the principal in each high school from a school budget which is to cover instructional needs of the school (i.e., general expenses other than salaries for teaching staff or capital expenses). Most schools have a budget in the range of $50,000 to $100,000 (1979 Canadian) and most media centres receive between $9,000 to $25,000 from the school budget. All fifteen schools in the sample provided a variety of academic and non-academic programs. (Three special high schools serving only handicapped students or providing only vocational education were excluded from the sample.)

Media Centre

The Leisener Inventory was used to catalogue services provided by the media centre in each high school. (Liesener, 1973, 1976, 1978) A checklist or inventory of resource centre services originally developed by Mary Gaver (and administered in Calgary public schools in 1971) was refined in consultation with Liesener. (Gaver, 1971; Gaver et al, 1971) In each high school, the Liesener Inventory was administered to a committee composed of the teacher-librarian, at least four classroom teachers and the principal. Each of the 413 questions involved a categorical "yes/no" answer. (The question measured the presence or absence of each service or item, not its intensiveness or extensiveness in the media centre program.) If the administrator and teachers confirmed the librarian's assessment that a service was available, that service was scored as being present in the school. The 413 scores yielded by the Inventory provided a profile of the socially recognized and acknowledged media centre services.

Student Attitudes and Media Centre Use

Each school was represented by two Grade XII classes in the academic program. A twenty-two item questionnaire was administered to students in both classes. On each item, students were given a statement about their attitude or behaviour vis-a-vis the media centre and then asked to indicate whether they "strongly agreed", "agreed", were "undecided", "disagreed", or "strongly disagreed" with the statement. The percentage of students with a response favorable to the media centre was calculated and assigned as the school score on that item. This coding procedure did not measure the intensity of individual sentiment or the frequency of individual use of the media centre. Rather, these scores were indicative of the prevalence of favorable attitudes and behavior in the student body.

Site Visits

As a check on these quantitative measures, site visits lasting two days were carried out in each school. Impressions of library arrangement, organization, and day-to-day operations were obtained from students and teachers as well as from media centre staff. The goal-free evaluation methods of observation advocated by Eisner and MacDorald were employed. (Eisner, 1973; MacDonald, 1974) Because of possible implications for individual careers as well as District policy, only very obvious and cross-validated results of the quantitative data analyses were reported. Quantitative results were considered only if affirmed by qualitative observations. Conversely, qualitative impressions were reported only if confirmed by the quantitative findings of the survey.

Results

Media Centre Services

Common Library Program. Three service areas were found to be common to all or almost all senior high media centres: Access, Instruction and Reference Services for Teachers and Students.

Access included general services such as the provision of space for individuals and groups to use a variety of media. An array of materials are provided, such as audio-visual equipment and software, books, newspapers, pamphlet files, periodicals and charts all of which can be used in the resource centre by students and teachers. In addition, reservation, renewal and overdue procedures are provided so media hardware and software can be circulated.

Instruction provided individual and group instruction for students and teachers on an "as-needs-arise" basis regarding reference and research skills. Reader guidance through individual student conferences and displays/exhibits was also found to be a common service.

Reference Services for Students and Teachers included provision of reference tools (e.g. dictionaries, subject indexes, encyclopedia) as well as identification and acquisition services. For example, student needs are identified through personal contact, students are directed to existing lists of citations, and arrangements are made for students to get materials not in the media centre. Similar services are available for teachers and, in addition, inter-library loans are made and bibliographies prepared.

Thus all, or almost all, senior high school media centres provide a core of Access, Instructional and Reference services. None of the core services extend into Production or Consultation. Thus every media centre is able to provide a basic program independent of "extended services" (i.e., Production and Consultation).

Differences in Media Centre Program. Some services were found to exist in some but not all schools. Those services that were present in at least four, but no more than eleven of the fifteen, schools were singled out for additional analysis. This variation between schools provided us with what might be termed a natural experiment to assess the impact of media centre services on student attitudes and behavior. The schools with a service could be regarded as being in the "experimental" or "treatment group", while the schools without the service would constitute a "control" group. If a media centre service affected student responses to the media centre, a difference in student responses should exist between the schools receiving the service and those not receiving the service. The media centre services that appeared to make a difference for student attitudes and behavior are listed on Table 1.

An inspection of the items presented on Table 1 reveals that most, if not all, were explicitly related to the audio-visual (AV) functions of the media centre.

TABLE 1

Media Centre[1] Services[2] Related To
Student Attitudes and Media Centre Use

Basic AV Services	Number of Schools With Service	Number of Schools Without Service
"Teachers are directed to existing lists of citations that include 'nonprint' materials where possible."	11	4
"Students may check out AV materials for use outside school."	11	4
AV Production		
Stock "still picture cameras".	9	6
"There is a photography function available to teachers and to students," and "materials may be used by teachers and by students in class," and "... outside school."	10	5
"The Resource Centre[1] provides assistance to teachers and to students in the production of materials or adaptation of commercially produced materials."	8	7
"Students may check out AV equipment for use outside school."	9	6
Prepackaged AV Materials		
"As a regular service, the Resource Centre undertakes to evaluate for teachers the quality of user materials relevant to a given reque[illegible], besides providing a selected list of references."	9	6
"Students have direct access to filmstrips (silent and sound) (through materials systematically organized on the shelves)."	8	7

[1] "Media Centre" is the label used by standard setting bodies in the United States of America. As Canadian standard setting bodies use the phrase "Resource Centre", the Liesener Inventory was modified to reflect Canadian terminology.

[2] Questionnaire items have been changed from interrogatory sentences to declaratory statements. Serial or contingent questions have been concentrated into one statement.

Observations in the schools suggested that these services might be grouped under three headings: Basic AV Services, AV Production, and Prepackaged AV Materials.

1) Basic AV Services involved making teachers aware of nonprint materials and allowing students to check out AV materials. In practice, these services appeared to be geared to meeting classroom needs, with student awareness of the AV holdings of the media centre being linked to the awareness of their classroom teachers. These Basic AV Services supported an AV Production function and/or an emphasis on the circulation of Prepackaged AV Materials.

2) The services grouped under AV Production focussed on photography. In some cases, photography was part of classroom-based enrichment programs for students who consistently completed assigned work before the others. In other schools, alternative formats for classroom projects catered to alternative learning styles of particular students, allowing them to select AV projects in place of more typical book-based reports. Librarians assisted classroom teachers in developing these projects by pointing out a wide range of resources that may be keyed to curriculum guidelines. The existence of photography in the media centre tended to be indicative of this more general, learning style orientation of teachers and librarians.

3) In contrast to this emphasis on production, the services grouped under the heading Prepackaged AV Materials appeared to involve a more conventional use of AV in the classroom. Librarians helped teachers by previewing films and videotaped programs, evaluating their relevance to units being taught in the classroom. Students used filmstrips to introduce and illustrate class presentations, perhaps emulating their teacher's use of AV resources or responding to a requirement that assignments include multi-media resources. While AV Production tended to centre on generating alternative styles of learning for selected students, the use of prepackaged AV materials tended to involve individual or group projects assigned to the class as a whole. In practice, the reference and access services identified as Basic AV Services took on a slightly different form depending on whether they were sustaining an AV Production function or the use of Prepackaged AV Materials. However, in both instances, media centre services related to student attitudes and behavior supported classroom-based programs of instruction.

Student Attitudes and Media Centre Use

Four items, two measures of student opinions and two indicative of the nature of student use of the media centre, were strongly correlated with most of the above AV related services. The wording of these items and an indication of the extent of variations from one school to another is presented on Table 2. The item with the highest scores concerns **use of the library** outside of class.**

** See footnote 1 on Table 2 on terminology (i.e., "library" versus "media centre").

TABLE 2

Student Attitudes and Media Centre[1] Use

	Percentage of Grade XII Students With Favourable Response			
	Average School Score	Score of Highest School	Score of Lowest School	Standard Deviation
Student Attitudes:				
"In my opinion, the school library[1] is very important for success in school"	54%	78%	20%	16%
"I don't use the library very often because it is too much of a hassle" (Percent disagreeing)	59%	75%	39%	11%
Media Centre Use:				
"I only use the library when I go there with the rest of a class" (Percent disagreeing)	72%	90%	52%	11%
"I go to the library only when I have to" (Percent disagreeing)	59%	74%	44%	10%

(N = 15 high schools)

[1] "Media Centre" is the label used by standard setting bodies in the United States of America. "Library" is the everyday word used by students in the schools surveyed. The student questionnaire therefore refers to the "library" rather than the "media centre".

C/PAF2.7

While most Grade XII students report using the media centre outside of class time, the percentage who did so varied from 90% of the students in one school to 52% in the school with the lowest score. A similar range of about 30 percentage points separated the most favorable and least favorable schools on items related to **climate** (i.e., no hassle) and **non-required use** of the media centre, with the highest scores being 75% and 74% and the lowest scores 39% and 44%, respectively. However, the greatest variation between schools has to do with attributed **importance of the library to success in school.** In the school with the lowest score, only one student in five agrees with this statement. Almost eight in ten agree with this statement in the school with the highest score. (The frequency distribution of all four items approximates a normal distribution, with the score of two-thirds of the cases falling within one standard deviation of the average school score.) We shall see that the presence of AV-related services is associated with more favorable attitudes and extended use of the media centre by students.

Correlation Between AV-Related Services and Student Responses

Almost all of the AV-related services are strongly correlated with the four indicators of student attitude and media centre use. (See Table 3). On average, the percentage of Grade XII students who report that the **library is important for success in school**, that library use involves **no hassle**, they **use the library outside class**, and that they **use the library on a non-required basis** is higher in schools with AV-related services. The presence of such an AV program appears to make a difference to the students. The strongest correlations tended to be with student **climate** (i.e., **no hassle**). The lowest correlations on Table 3 are between **non-required use** of the library and services supporting the use of Prepackaged AV Materials. Classroom presentations involving Prepackaged AV Materials frequently generate assigned work for students. With this in mind, we can see that these results suggest that the use of Prepackaged AV materials in assignments is only moderately associated with further non-required use of the media centre. However, these moderate correlations only serve to emphasize the magnitude of the other correlations between AV-related services and student responses.

TABLE 3

Student Attitudes and Media Centre Use
Correlated With AV-Related Services (Pearson's r[1])

	Student Responses			
	Important for Success	Climate (No Hassle)	Outside Class	Non-Required
Media Centre Services:				
Basic AV Services				
List nonprint for teachers	.73	.83	.66	.65
Loan materials to students	.73	.83	.63	.65
AV Production				
Stock cameras	.65	.80	.63	.65
Photography materials	.64	.79	.59	.57
Photography assistance	.67	.63	.62	.52
Loan equipment to students	.49	.71	.63	.62
Prepackaged AV Materials				
Evaluate lists for teachers	.64	.62	.51	.33
Filmstrips available to students	.62	.62	.37	.31

(N = 15 high schools)

[1] The percentage scores of student responses (the dependent variables) are both interval variables and continuous variables. As such, Pearson's r is the appropriate correlation coefficient. This statistic has the added advantage of providing an indication of the extent to which the variation in the dependent variable is associated with the variation in the independent variable. The statistically "explained" variation is equal to the squared Pearson's r coefficient, r^2.

C/PAF2.9

A Media Centre AV Program

The correlation between listing nonprint materials for teachers and loaning AV materials to students for homework and/or personal use (i.e., **Basic AV Services**, Tables 1, 3, and 4) is perfect (r = 1.00). (See Table 4) While the other correlations listed on Table 4 are not perfect, many are extremely high, indicating that most of the identified services and holdings tend to co-exist as part of an integrated program. (Indeed, this problem of multicolinearity prevented us from using multivariate regression analysis to isolate the independent effects of each library service.) The stocking of cameras, photography and loaning equipment to students all have to do with AV Production, and all interrcorrelations among these services are greater than or equal to r = 0.58 (80% of the correlations are greater than or equal to r = 0.72). Services related to the use of Prepared AV Materials are not as strongly or consistently correlated with elements of AV Production.

TABLE 4

Intercorrelations Among Elements of an AV Program
(Pearson's r)

Media Centre Services:	Basic	Production				Packaged		AV $
	2	3	4	5	6	7	8	9
Basic AV Services								
1. List nonprint for teachers	1.00	.74	.85	.64	.74	.74	.64	.62
2. Loan materials to students		.74	.85	.64	.74	.74	.64	.62
AV Production								
3. Stock cameras			.86	.87	.72	.44	.60	.57
4. Photography materials				.75	.58	.58	.47	.50
5. Photography assistance					.60	.33	.46	.67
6. Loan equipment to students						.44	.60	.58
Prepackaged AV Materials								
7. Evaluate lists for teachers							.60	.16
8. Filmstrips available to students								.12
Budget:								
9. AV expenditures								

(N = 15 high school)

C/PAF2.10

Library expenditures on AV materials and equipment clearly have a different relationship to these two different components of an AV program. The correlations are moderately strong with AV Production, particularly with assistance in photography (r = 0.67). In contrast, the correlation between AV expenditures and Prepackaged AV Materials is all but nonexistent (r = 0.16 and 0.12). It would seem that AV Production, but not accessing Prepackaged AV Materials, is contingent upon the level of funding.

A search was made to discover other possible preconditions or inputs that might be required to establish an AV program. Such factors as: (1) experience and qualifications of the librarian, (2) the number of librarians and clerks, (3) seniority of the principal, (4) bussing of students, (5) average ability scores of the student body, (6) the number of students enrolled, (7) the socio-economic status of the neighborhood, and (8) the age of the school were simply uncorrelated with the presence or absence of any of the elements of the AV program identified. Campbell and Stanley give us some basis for assessing the import of these non-findings. They stated that while "... correlation does not necessarily indicate causation ..." causation "... does imply correlation". (Campbell and Stanley, 1963: 64) Unless measurement error is a significant problem, these non-findings suggest that an AV program does not depend on a number factors that have served to limit the introduction of other educational programs. The size of the school budget and of the overall media centre budget were correlated with the size of library AV expenditures (r = 0.60) and, in this way, may have an indirect effect on the possibility of AV production in the media centre. However, the surprising conclusion is that an AV program may be dependent only on AV expenditures, and then only for the production of AV materials and not use of prepackaged materials for classroom presentations.

Discussion

Topics related to the work we are interested in are learning styles, models of teaching and curriculum implementation as explored by people such as Anthony Gregorc, Rita and Kenneth Dunn; Bruce Joyce and Marsha Weil; the Institute for the Development of Educational Activities (I/D/E/A), and Jack Gibb.

Firstly AV production, as enrichment, caters to learning styles. In turn, catering to student learning styles appears to be related to teachers' abilitites to recognize and accommodate individual student learning preferences not provided for in the classroom. In schools where the AV component was present, classroom teachers were offering students a wider variety of research opportunities. For example, students were observed gathering and reporting data by independently listening to audio tapes or reading, watching a movie in a large group, participating in a small group discussion, making posters, sewing period costumes or making a set of slides with a friend. In turn, students reported positive attitudes. This lends some support to Rita and Kenneth Dunn's and Anthony Gregorc's theories that successful learners are those whose learning preferences are accommodated. (Dunn and Dunn, 1977; de Luna, 1982)

Secondly, the models of teaching adopted by the majority of teachers in a school will likely determine Basic AV Services. In those models of teaching where the teacher motivates and initiates student inquiry, then media programs are expected to provide a variety of resources in response to a variety of learner demands as needs arise. Examples of such models are Herbert Thelen's "Group Investigation: Democratic Process As A Source" and Bryon Massialis and Benjamin Cox's "Inquiry in Social Studies". (Joyce and Weil, 1980 pp. 226-240, pp. 310-323) Our observations revealed that in schools where teachers focussed on learning through student inquiry, then Basic AV Services were provided. This was particularly evident in the Social Studies and Language Arts areas. It is not surprising that in the same schools where the Humanities teachers relied heavily on the media program, that the AV budgets were high.

Thirdly, certain organizational models are likely to nurture an AV Program. Models such as the I/D/E/A Change Program for Individually Guided Education (I.G.E.), promote the AV component because a basic premise of such a model is that students assume increasing responsibility for their own learning. (Implementation Guide, 1975) Independent student enquiry assumes that at least teachers are oriented to prepackaged materials for individual student access as opposed to provision of class sets of textual materials. Furthermore, curriculum implementation which recognizes and rewards student discovery appear to be facilitated by media programs which include opportunities for students to be actively engaged in creativity. Media production offers to students such opportunities if students are encouraged to do some risk taking - to explore alternatives and thereby "make sense" of new curriculum knowledge. (Swarthout, 1966) Of course risk-taking by students also requires risk-free teachers, a notion applauded by Jack Gibb, Charlene Swarthout and Ralph Peterson. (Gibb, 1961; Swarthout, 1967; Peterson, 1979)

Too often, teachers harried by perceived curriculum demands feel that there is no time for a mediated approach to learning - no time to adapt instruction to student characteristics, no time to appraise how students feel about their schooling. But as John Goodlad asks, "How many institutional curricula have been influenced by student reactions to and perceptions of the programs they are experiencing? (Goodlad, 1979) Those schools willing to support the AV component may be validating the Personal Domain in their actual practice of curriculum.

In practical terms, teachers who feel less bound by a curriculum may also be teachers who have a high integration index as described by David Hunt (Joyce, 1980). Teachers with a high integration index are more likely to be able to see opportunities for simultaneous alternate student approaches in response to students' immediate interests and abilities. This has organizational implications for both teachers and students.

CONCLUSION

Initiated as part of a larger evaluation of school library programs by the Calgary Board of Education, this paper focusses on the impact of the AV component on students. We found that the existence of the AV component was associated with students valuing, and extensively using, the library program. These findings may have some implications for those concerned with student learning styles, provision for models of teaching and curriculum implementation.

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